BRACHYTHECIUM NELSONI n. sp.

By A. J. Grout.

Plants with the facies of undersized *Brachythecium rivulare*, but not dendroid. Stems 5–8 cm. long, irregularly to subpinnately branching. Stem leaves erect-spreading, triangular-ovate, long and slenderly acuminate, 1.5–2 x about 0.6 mm., slightly concave with margins turned inwards towards the apex, slightly serrulate at extreme apex. Branch leaves similar to the stem leaves but smaller and usually proportionately narrower, the upper often serrate above, decurrent, with a large area of abruptly enlarged and inflated alar cells which are separated from the ordinary cells by a narrow band of much smaller oblong cells. These alar cells are much like those of *B. rivulare*. except that they occupy a larger area; median and apical cells much as in *B. rivulare*, costa stout at base, rapidly narrowing in the lower portion, extending about two-thirds the length of the leaf. Perichaetial leaves slightly costate.

Apparently dioicous. Sporophyte not differing essentially from that of *B. rivulare*.

La Plata Mines, Wyoming, Aug. 25, 1898. Coll Elias Nelson, no. 5172. Com. J. M. Holzinger. Apparently growing on humus. Type in herb. A. J. G.

This plant is very close to *B. rivulare* but differs distinctly in its triangular long acuminate leaves, which are different from any I have ever seen on any of the hundreds of specimens of *B. rivulare* which I have examined. The inflated alar cells are also much more numerous, extending well toward the costa.

Description of Plate VII.

a, Plant of *B. Nelsoni* x 1½. b & c, Capsules x 8. d & e, Stem leaves of *B. Nelsoni:* d′ & e′, of *B. rivulare.* f, g, & h, Branch leaves from upper middle, lower middle, and base respectively of branch of *B. Nelsoni:* f′, g′, & h′, same of *B. rivulare.* k, Large branch leaf of *B. Nelsoni.* l, Alar cells of *B. Nelsoni:* l′, of *B. rivulare.* m, Median cells of *B. Nelsoni:* m′, of *B. rivulare.*

LUNULARIA CRUCIATA IN FRUIT.

By Julia T Shinn

Although described as always sterile in America, *Lunularia cruciata* has yielded to the "glorious climate of California" and quantities of the tiny white tufts that conceal the young archegonia were to be seen during this last April and May in the great lath-house of the California Nursery Company at Niles. There, as in many large American greenhouses, the *Lunularia* is a great nuisance, rapidly covering the surface of the half-buried pots and of the earth between them. The air of the lath-house is of course fresher than in a glass house, the ground is kept damp and it is rather darker than under glass. This house is used principally as a shelter for camellias, azaleas and the more tender conifers such as araucarias. Possibly the conditions suitable to these plants approach those of the European habitats of the *Lunularia.*

While in the damper parts of the house this hepatic grows with ordinary luxuriance, in the higher, more nearly dry parts, the thallus is a little smaller, the characteristic, crescent-shaped gemmae cups less numerous. In this dryer portion, the first week in April I found many of the little white tufts, until then quite new to me.

Examination under a microscope showed a tiny green center so small that I could not be sure of its nature, though Dr. Howe's descriptions,—" ○ receptacle arising from a deep sinus of the thallus, surrounded when young and sessile by a tubular-ovate sheath, consisting of numerous scales, the inner of these membraneous, hyaline, ciliate-fimbriate"—suited exactly.

Two weeks later I again visited the lath-house. By this time the tufts had doubled in size and there were many androecii, full sized but not quite mature. In another week the young archegonia were distinctly four-parted and rounded. Evidently many of them had been fertilized. Some of those that I had taken home and put under glass had grown, but not nearly as much as the undisturbed ones.

On the 9th of May I found eleven perfected "fruits" in the lath-house, and many approaching perfection. Of one, indeed, the capsules had burst. the spores were gone, and only a few brown threads of elaters still clung to the ends of the valves.

It is a beautiful thing,—the "delicate, pellucid, pilose peduncle" with the four or five tubular segments each tipped with a pendant brown capsule —infinitely more lovely than any printed description or dried herbarium specimen could tell. *Niles, California.*

BRYOLOGICAL MILLINERY.

By Cora H. Clarke.

I wonder if the members of the Sullivant Moss Chapter have seen bonnets and hats made of real moss? An enterprising member of a Boston Botanical Class went to Jordan and Marsh's to investigate the matter, and found, on the counter where fancy braids of various material were sold for the composition of hats and bonnets, two styles of moss braid. One was in the shape of a green band, nearly three inches wide, the price of which was 25 cts. a yard. Examining this at our Botany Group, we discovered it to be composed of sprigs of moss two or three inches long, with short side branches. These sprigs were evidently laid side by side and then fastened together by nine rows of coarse stitching, running the length of the band, and done with coarse cotton thread. (I wonder that green thread was not used for this purpose). When we picked some bits out and examined the moss, we found that it resembled *H. Schreberi*, but without the red stem—it agreed very nicely with the description of *Hypnum purum*, a species which does not occur in this country, but we found it described in "Dixon." In a yard of the band, we found but two fruits.

The other preparation of moss looks like a long cord of green chenille, not quite half an inch in diameter. It sells for ten cents a yard. The bits of brown moss mixed with the green are a darker brown than those of the